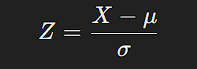
**Standard Normal Distribution (SND)**

The **Standard Normal Distribution (SND)** is a special case of the **normal distribution**, where:

* **Mean (μ) = 0**
* **Standard Deviation (σ) = 1**

Every normal distribution can be converted into an SND using the **Z-score formula**:



### **Key Properties of Standard Normal Distribution**

1. **Bell-shaped & Symmetric** around **Z = 0**.
2. **Total area under the curve = 1**.
3. **Follows the 68-95-99.7 Rule**:
   * **68%** of values lie between **Z = -1 and Z = +1**.
   * **95%** of values lie between **Z = -2 and Z = +2**.
   * **99.7%** of values lie between **Z = -3 and Z = +3**.

### **Why Use Standard Normal Distribution?**

✅ Makes data comparable across different distributions.  
 ✅ Helps in calculating **probabilities** using **Z-tables**.  
 ✅ Used in **hypothesis testing** and **confidence intervals**.

